

CLEAN CLAIMS AFTER PRELIMINARY AMENDMENT OF DECEMBER 27, 2000

1. A welding method for materials to be welded which are subjected to fluoride passivation treatment, wherein, when materials to be welded, comprising the steps of:

adding hydrogen to a gas (back shield gas) flowing through the materials to be welded; and

welding stainless steel which is subjected to fluoride passivation treatment.

2. The welding method for materials to be welded which are subjected to fluoride passivation treatment in accordance with Claim 1, wherein the hydrogen added to said back shield gas is within a range of 0.1% - 20%.

3. The welding method for materials to be welded which are subjected to fluoride passivation treatment in accordance with Claim 1, wherein the hydrogen in said back shield gas is within a range of 3 - 10%.

4. The welding method for materials to be welded which are subjected to fluoride passivation treatment in accordance with Claim 1, wherein the hydrogen in said back shield gas is within a range of 5 - 10%.

5. The welding method for materials to be welded which are subjected to fluoride passivation treatment in accordance with Claim 1, wherein said back shield gas has a noble gas as a chief component thereof.

6. The welding method for materials to be welded which are subjected to fluoride passivation treatment in accordance with Claim 5, wherein said noble gas comprises argon gas.

7. The welding method for materials to be welded which are subjected to fluoride passivation treatment in accordance with Claim 1, wherein the flow rate of said back shield gas is 6L/min or more.

8. The welding method for materials to be welded which are subjected to fluoride passivation treatment in accordance with Claim 1, wherein the flow rate of said back shield gas is within a range of 6 - 10 L/min.

9. A welding method for materials to be welded which are subjected to fluoride passivation treatment, comprising the steps of:

supplying stainless steel subjected to fluoride passivation treatment wherein the thickness of a fluoride passivated film in a prespecified range from butt end surfaces of members to be welded is set to 10 nm or less; and

welding stainless steel.

10. The welding method for materials to be welded which are subjected to fluoride passivation treatment in accordance with Claim 9, further comprising the steps of:

immersing a region of at least 5 mm from said butt end surfaces of said materials to be welded in an aqueous solution containing hydrofluoric acid and hydrogen peroxide, and welding is subsequently conducted.

11. The welding method for materials to be welded which are subjected to fluoride passivation treatment in accordance with Claim 10, wherein the temperature of said aqueous solution is within a range of 60 - 90°C.

12. The welding method for materials to be welded which are subjected to fluoride passivation treatment in accordance with Claim 10, wherein the temperature of said aqueous solution is within a range of 80 - 90°C.

13. The welding method for materials to be welded which are subjected to fluoride passivation treatment in accordance with Claim 10, wherein the period of immersion in said aqueous solution is 5 minutes or more.

14. The welding method for materials to be welded which are subjected to fluoride passivation treatment in accordance with Claim 9, further comprising the steps of:

immersing a region of at least 5 mm from said butt end surfaces of said materials to be welded for a period of 5 minutes or more in hot water within a range of 60 - 90°C' removing a film; and

welding is subsequently conducted.

15. A welded product produced using the welding method in accordance with Claim 1.

16. The welding method, in accordance with Claim 1 further comprising the steps of:

heating at least the welded part after welding and flowing a gas containing fluorine gas through the interior of said parts.

17. A welded product, produced in accordance with the welding method of Claim 16.

18. A welding product produced using the welding method in accordance with Claim 9.

19. A welding product produced using the welding method in accordance with Claim 10.

20. A welding product produced using the welding method in accordance with Claim 14.

21. The welding method, in accordance with Claim 9 further comprising the steps of:

heating at least the welded part after welding and flowing a gas containing fluorine gas through the interior of said parts.

22. The welding method, in accordance with Claim 10 further comprising the steps of:

heating at least the welded part after welding and flowing a gas containing fluorine gas through the interior of said parts.

23. The welding method, in accordance with Claim 14 further comprising the steps of:

heating at least the welded part after welding and flowing a gas containing fluorine gas through the interior of said parts.

24. A welded product, produced in accordance with the welding method of Claim 21.

25. A welded product, produced in accordance with the welding method of Claim 22.

26. A welded product, produced in accordance with the welding method of Claim 23.